

## Bacteria, Fungi and Viruses, Sizes and Significance (Sizes in Micrometers - MM)

**Note: Most are above 0.1M in size. None are below 0.01 in size.**

Organism	Microbial Group	Rod Length µm	Rod or Coccus Diameter µm	Source	Significance
Absidia corymbifera	Fungi		3.8	Environmental	Zygomycosis
Acetobacter Melanogenus	Bacteria	1.0-2.0	0.4-0.8		Strong beer/vinegar bacterium.
Acinetobacter	Bacteria		1.3	Environmental	Opportunistic infections
Acremonium spp.	Fungi		2.5	Environmental	Extrinsic Allergic Aveons
Actinomyces israelii	Bacteria		1.0	Humans	Antinomycosis
Adenovirus	Virus		0.08	Humans	Colds
Alcaligenes Viscolactis	Bacteria	0.8-2.6	0.6-1.0		Causes ropiness in milk.
Alkaligenes	Bacteria		0.75	Humans	Opportunistic infections
Alternaria alternata	Fungi		14.4	Environmental	Mycotoxycosis
Arenavirus	Virus		0.18	Rodents	Hemorrhagic fever
Aspergillus spp.	Fungi		3.5	Environmental	Aspergillosis, Volatile Organic Compound
Aureobasidium pullulans	Fungi		5	Environmental	Chromomycosis
Bacillus anthracis	Bacteria	3.0-10.0	1.0-1.3 (1.1 average)	Environmental	Causes anthrax in mammals
Bacillus Stearothermophilus	Bacteria	2.0-5.0	0.6-1.0		Biological indicator for steam sterilization
Bacillus subtilis	Bacteria	2.0-3.0	0.7-0.8		Biological indicator for ethylene oxide sterilization
Blastomyces dermatitidis	Fungi		14	Environmental	Blastomycosis
Bordetella pertussis	Bacteria		0.25	Humans	Whooping cough
Botrytis cinera	Fungi		7	Environmental	Extrinsic Allergic Aveons
Cardiobacterium	Bacteria		0.63	Humans	Opportunistic infections
Chaetomium globosum	Fungi		5.5	Environmental	Chromomycosis, Volatile Organic Compound
Chiamydia psittaci	Bacteria		0.3	Birds	Psittacosis
Chlamydia pneumoniae	Virus		0.3	Humans	Pneumonia
Cladosporium spp.	Fungi		9	Environmental	Chromblastomycosis
Clostridium botulinum (B)	Bacteria	3.0-8.0	0.5-0.8		Produces exotoxin causes botulism
Clostridium Perinngens	Bacteria	4.0-8.0	1.0-1.5		Produces toxin causing food poisoning
Clostridium tetani	Bacteria	4.0-8.0	0.4-0.6		Produces exotoxin causing tetanus
Coccidioides immitis	Fungi		4	Environmental	Coccidiomycosis

Coronavirus	Virus		0.11	Humans	Colds
Corynebacteria diphtheria	Bacteria		1.0	Humans	Diphtheria
Coxiella burnetii	Bacteria		0.5	Cattle, sheep	Q fever
Coxsackievirus	Virus		0.027	Humans	Colds
Cryptococcus neoformans	Fungi		5.5	Environmental	Cryptococcosis
Diplococcus Pneumoniae	Bacteria		0.5-1.25		Causes lobar pneumonia
Echovirus	Virus		0.028	Humans	Colds
Emericella nidulans	Fungi		3.3	Environmental	Mycotoxicosis, Volatile Organic Compound
Epicoccum nigrum	Fungi		20	Environmental	Extrinsic Allergic Aveons
Erwina aroideae	Bacteria	2.0-3.0	0.5		Causes soft rot in vegetables.
Escherichia Coli (E Coli)	Bacteria	1.0-3.0	0.5		Indicator of fecal contamination in water.
Eurotium spp.	Fungi		5.8	Environmental	Extrinsic Allergic Aveons
Exophiala jeanselmei	Fungi		2	Environmental	Chromomycosis
Francisella tularensis	Bacteria		0.2	Wild animals	Tularemia
Geomyces pannorum	Fungi		3	Environmental	Extrinsic Allergic Aveons
Haemophilus influenzae	Bacteria	0.5-2.0	0.2-0.3		Causes influenza and acute respiratory infections
Haemophilus influenzae	Bacteria		0.43	Humans	Meningitis, pneumonia
Haemophilus parainfluenzae	Bacteria		1	Humans	Opportunistic infections
Hantavirus	Virus		0.07	Rodents	Hantavirus
Helminthosporium	Fungi		12.5	Environmental	Extrinsic Allergic Aveons
Histoplasma capsulatum	Fungi		3	Environmental	Histoplasmosis
Influenza	Virus		0.1	Humans, birds	Flu
Klebsiella pneumoniae	Bacteria	5	0.4-0.5	Environmental	Opportunistic infections, causes pneumonia and other respiratory inflammation
Lactobacillus Delbrueckii	Bacteria	2.0-9.0	0.5-0.8		Causes souring of grain-mashes
Legionella pneumophila	Bacteria		0.6	Environmental	Pontiac fever
Micromonospora faeni	Actinomycetes		1	Agricultural	Farmers' lung, Hypersensitivity Pneumonitis
Micropolyspora faeni	Actinomycetes		0.69	Agricultural	Farmers' lung, Hypersensitivity Pneumonitis
Moraxella catarrhalis	Bacteria		1.3	Humans	Opportunistic infections
Moraxella lacunata	Bacteria		1	Humans	Opportunistic infections
Morbillivirus	Virus		0.12	Humans	Measles (rubeola)
Mucor plumbeus	Fungi		7.5	Environmental	Mucormycosis
Mycobacterium avium	Bacteria		1.2	Environmental	Cavitary pulmonary disorder
Mycobacterium intracellulare	Bacteria		1.2	Environmental	Cavitary pulmonary disorder
Mycobacterium kansasii	Bacteria		0.86	Unknown	Cavitary pulmonary disorder
Mycobacterium Tuberculosis	Bacteria	1.0-4.0	0.2-0.5	Humans	Hard swelling of body tissues. TB

			(0.86 average)		
<i>Mycoplasma pneumoniae</i>	Bacteria		0.25	Humans	Pneumonia
<i>Mycoplasma pneumoniae</i> (PPLO)	Bacteria		0.3-0.5		Smallest known free-living organism
<i>Neisseria meningitidis</i>	Bacteria		0.8	Humans	Meningitis
<i>Nocardia Brasiliensis</i>	Actinomycetes		1.5	Environmental	Pulmonary mycetoma
<i>Nocardia asteroides</i>	Actinomycetes		1.1	Environmental	Nocardiosis
<i>Paecilomyces variotii</i>	Fungi		3	Environmental	Mucormycosis
<i>Paracoccidioides brasiliensis</i>	Fungi		23	Environmental	Paracoccidioidomycosis
Parainfluenza	Virus		0.22	Humans	Flu
Paramyxovirus	Virus		0.23	Humans	Mumps
Parvovirus B19	Virus		0.022	Humans	Filth disease, anemia
<i>Pediococcus acidilactici</i>	Bacteria		0.6-1.0		Causes mash spoilage in brewing
<i>Pediococcus Cerevisiae</i>	Bacteria		1.0-1.3		Causes deterioration in beer
<i>Penicillium</i> spp.	Fungi		3.3	Environmental	Mycotoxigenesis, Volatile Organic Compound
<i>Phialophora</i> spp.	Fungi		1.5	Environmental	Chromomycosis
<i>Phoma</i> spp	Fungi		3.3	Environmental	Mucormycosis
<i>Pneumocystis carinii</i>	Bacteria		2	Environmental	Pneumocystosis
Poxvirus - Vaccinia	Virus		0.23	Agricultural	Cowpox
<i>Pseudomonas aeruginosa</i>	Bacteria		0.57	Environmental	Opportunistic infections
<i>Pseudomonas mallei</i>	Bacteria		0.77	Environmental	Opportunistic infections
<i>Pseudomonas pseudomallei</i>	Bacteria		0.57	Environmental	Opportunistic infections
<i>Pseudomonas diminuta</i>	Bacteria		1.0-0.3		Test organism for retention 0.2 $\mu$ m membranes
Rhinovirus	Virus		0.023	Humans	Colds
<i>Rhizopus stolonifer</i>	Fungi		8	Environmental	Zygomycosis
<i>Rhodotorula</i> spp.	Fungi		14	Environmental	Extrinsic Allergic Atonia
<i>Salmonella enteritidis</i>	Bacteria	2.0-3.0	0.6-0.7		Causes food poisoning
<i>Salmonella enteritidis</i>	Bacteria	2.0-3.0	0.6-0.7		Causes food poisoning
<i>Salmonella hirschfeldii</i>	Bacteria	1.0-2.5	0.3-0.5		Causes enteric fever
<i>Salmonella typhimurium</i>	Bacteria		1.0-1.5-0.5		Causes food poisoning in man
<i>Salmonella typhosa</i>	Bacteria	2.0-3.0	0.6-0.7		Causes typhoid fever
<i>Sarcina maxima</i>	Bacteria		4.0-4.5		Isolated from fermenting malt mash
<i>Scopulariopsis</i> spp.	Fungi		6	Environmental	Onychomycosis
<i>Serratia marcescens</i>	Bacteria	0.5-1.0	0.5		Test organism for retention of 0.45 $\mu$ m membranes
<i>Serratia marcescens</i>	Bacteria		1.3	Environmental	Opportunistic infections
<i>Shigella dysenteriae</i>	Bacteria	1.0-3.0	0.4-0.6		Causes dysentery in man

Sporothrix schenckii	Fungi		6.5	Environmental	Sporotrichosis
Stachybotrys spp.	Fungi		5.7	Environmental	Stachybotryotoxicosis
Staphylococcus Aureus	Bacteria		0.8-1.0	Humans	Causes pus forming infections, opportunistic infections
Streptococcus lactis	Bacteria		0.5-1.0		Contaminant in milk
Streptococcus pneumoniae	Bacteria		0.9	Humans	Pneumonia, otitis media
Streptococcus pyogenes	Bacteria		0.6-1.0 (0.9 average)	Humans	Causes pus forming infections, scarlet fever, pharyngitis
Thermoactinomyces sacchari	Actinomycetes		0.86	Agricultural	Bagassosis
Thermoactinomyces vulgaris	Actinomycetes		1	Agricultural	Farmers' lung, Hypersensitivity Pneumonitis
Thermomonospora viridis	Actinomycetes		0.6	Agricultural	Farmers' lung, Hypersensitivity Pneumonitis
Togavirus	Virus		0.063	Humans	Rubella (german measles)
Trichoderma spp.	Fungi		4.1	Environmental	Mycotoxycosis, Volatile Organic Compound
Ulocladium spp.	Fungi		15	Environmental	Extrinsic Allergic Avelons
Varicella-zoster	Virus		0.3	Humans	Chickenpox
Wallemia sebi	Fungi		3	Environmental	Extrinsic Allergic Avelons
Yersinia pestis	Virus		0.75	Humans	Pneumonic plague

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